

# OBSERVATIONS & RECOMMENDATIONS

After reviewing data collected from **PAWTUCKAWAY LAKE**, the program coordinators recommend the following actions.

*Thank you for your diligent monitoring efforts this spring and summer! Consistent sampling allows us to compile a larger volume of data, which helps us to make the most accurate data analyses possible.*

## **NORTH STATION**

### **FIGURE INTERPRETATION**

- Figure 1: These graphs illustrate concentrations of chlorophyll-a in the water column. Algae are microscopic plants that are a natural part of lake ecosystems. Algae contain chlorophyll-a, a pigment necessary for photosynthesis. A measure of chlorophyll-a can indicate the abundance of algae in a lake. The historical data (the bottom graph) show a *worsening* in-lake chlorophyll-a trend, meaning concentrations are increasing. Chlorophyll-a concentrations were elevated above the NH mean in June and September this season. High epilimnetic phosphorus concentrations in May most likely caused the increase in algal growth observed in June. Slightly elevated phosphorus concentrations in July and September likely increased algal concentrations in September. The higher wetfall in NH this past summer resulted in phosphorus-rich runoff from the watershed. The increased phosphorus resulted in greater lake productivity. While algae are present in all lakes, an excess amount of any type is not welcomed. Concentrations can increase when there are external and internal sources of phosphorus, which is the nutrient algae depend upon for growth. It's important to continue the education process and keep residents aware of the sources of phosphorus and how it influences lake quality.
- Figure 2: Water clarity is measured by using a Secchi disk. Clarity, or transparency, can be influenced by such things as algae, sediments from erosion, and natural colors of the water. The graphs on this page show historical and current year data. The lower graph shows a *slightly worsening* trend in lake transparency. The increased rain and the increase in algal concentration caused a decrease in water clarity this season. Clarity was highest in May and June. The low chlorophyll-a concentration in May lead to an increase in transparency. Elevated chlorophyll concentrations in June did not

have an immediate impact on the transparency. The 2000 sampling season was considered to be wet and, therefore, average transparency readings are expected to be slightly lower than last year's readings. Higher amounts of rainfall usually cause more eroding of sediments into lakes and streams, thus decreasing clarity.

- Figure 3: These figures show the amounts of phosphorus in the epilimnion (the upper layer in the lake) and the hypolimnion (the lower layer); the inset graphs show current year data. Phosphorus is the limiting nutrient for plants and algae in New Hampshire waters. Too much phosphorus in a lake can lead to increases in plant growth over time. These graphs show a *worsening, and increasing variability*, trend for in-lake phosphorus levels, which means levels are increasing. Epilimnetic phosphorus concentrations were extremely high for the lake and were likely a result of greater runoff from spring rains that contributed excess nutrients to the lake from the watershed. Phosphorus concentrations recovered after the May spike, however, four out of five months had concentrations above the NH median reference line. Hypolimnetic phosphorus concentrations increased gradually at the start of the season, but by August and September concentrations increased dramatically. July results may have been elevated due to the high turbidity of the sample. Bottom sediment can raise phosphorus concentrations of samples and yield inaccurate results. Pawtuckaway Lake also experiences dissolved oxygen depletion in the hypolimnion and metalimnion (middle water layer). Please refer to the Other Comments section below. Phosphorus concentrations continue to be above the NH median reference line, and are at unhealthy levels for the lake. One of the most important approaches to reducing phosphorus levels is educating the public. Humans introduce phosphorus to lakes by several means: fertilizing lawns, septic system failures, and detergents containing phosphates are just a few. Keeping the public aware of ways to reduce the input of phosphorus to lakes means less productivity in the lake. Contact the VLAP coordinator for tips on educating your lake residents or for ideas on testing your watershed for phosphorus inputs.

#### **OTHER COMMENTS**

- Conductivity in #08F Upstream increased this season (Table 6). Conductivity was particularly high in July and August. As the summer progresses, nutrients such as minerals and salts tend to accumulate in the water and can cause an increase in conductivity. In July, the turbidity was elevated (Table 11), indicating that the inlet flow might have been low. This would have increased the conductivity as a result of nutrients being accumulated due to the decreased flow. We suspect that this was the case in August and by September it was noted that there was no flow in #08F Upstream. The low flow conditions can elevate conductivity, turbidity, and

phosphorus concentrations. Please remember to only collect samples when sufficient flow is available.

- Fernalds Brook is also affected by the runoff from Batchelder Farm. In 1999 many steps were taken to reduce the nutrient flow from the farm to improve the water quality of Fernalds Brook. Total phosphorus concentration (Table 8) remained high in the upstream site, but the mean value decreased this year. Concentrations in May were the lowest observed in 4 years. Mean phosphorus concentration downstream decreased as well. The water quality of Fernalds Brook and its watershed may show small improvements over time. The years of accumulation of nonpoint source pollutants (NPS) may take many years to flush out of the system. Fernalds Brook needs continued monitoring to make sure that the protective measures taken last year are maintained, and that no new NPS sources develop.
- Dissolved oxygen was low from the metalimnion to the bottom of the North Station in August (Table 9). The process of decomposition in the sediments depletes dissolved oxygen on the bottom of thermally stratified lakes. As bacteria break down organic matter, they deplete oxygen in the water. When oxygen gets below 1 mg/L, phosphorus normally bound up in the sediments may be released into the water column, a process that is referred to as *internal loading*. Depleted oxygen in the hypolimnion usually occurs as the summer progresses. Dissolved oxygen was depleted up to 10 meters off the bottom of the lake by August. This means there was no oxygen in the hypolimnion up through the metalimnion (middle water layer). This explains the higher phosphorus in the hypolimnion (lower water layer) versus the epilimnion (upper layer). Phosphorus concentration in the metalimnion was not affected by the lack of dissolved oxygen. The water from the two layers does not mix during the summer months, and the excess phosphorus in the hypolimnion would not be transported through the water column until the fall turnover of the lake. Elevated phosphorus concentrations may have been affected by the turbidity of the samples, which indicates that the samples were contaminated with bottom sediment. The sediment, which has phosphorus bound to it, can raise phosphorus concentrations of the samples. Since an internal source of phosphorus to the lake is present, limiting or eliminating external phosphorus sources in the lake's watershed is even more important for lake protection.
- Phosphorus concentrations in Fundy (#13) and Round Pond (#14) Brooks decreased this season. Mean phosphorus concentration was the lowest ever recorded for either brook. Fertilizers, detergents, agricultural runoff, and septic system leachate can all affect phosphorus concentration. This decrease is a positive sign for the lake and its watershed.

**NOTES**

- Monitor's Note (7/18/00): Water surface clean, no algae apparent.
- Monitor's Note (8/22/00): No noticeable algae problem on north side of lake.
- Monitor's Note (9/19/00): #7 White's no flow. #8F Fernalds no flow.
- Biologist's Note (9/19/00): Internal loading of hypolimnion.

**SOUTH STATION****FIGURE INTERPRETATION**

- Figure 1: The historical data (the bottom graph) show a *worsening* in-lake chlorophyll-a trend, meaning concentrations are increasing. Chlorophyll-a concentrations were indicative of an algae bloom in both June and July, and monitors made note of bloom conditions during July. Phosphorus concentrations during those months were actually low, however, concentrations in May were high enough for the algae to grow to bloom proportions in June. Algal abundance in September was back above the NH mean, as were phosphorus concentrations in the epilimnion. There is a delicate balance between algae and phosphorus in the South Station, and controlling sources of excess phosphorus to the lake will help to maintain this balance at a healthy level.
- Figure 2: The lower graph shows a *fairly stable* trend in lake transparency. Transparency results were relatively consistent from May to August. The algae bloom did not decrease the transparency in this station. Overall, water clarity decreased this season, and mean transparency has continued to be below the NH mean reference line since 1994.
- Figure 3: These graphs show a *fairly stable* trend for in-lake phosphorus levels. Phosphorus concentrations in both the epilimnion and hypolimnion were elevated in May. Spring snowmelt and rain most likely caused excess phosphorus to be washed into the lake and then mixed through the water column. Concentrations in both layers decreased in June and July possibly as a result of an algae bloom during that time. August hypolimnetic phosphorus was elevated due to a combination of the turbidity of the sample, and the depletion of dissolved oxygen. Mean phosphorus concentrations were above the median for NH lakes in both layers.

**OTHER COMMENTS**

- Dissolved oxygen was depleted in the last two meters of the South Station in August (Table 9). As summer progresses, oxygen is often depleted in the lower layer of stratified lakes by the process of decomposition. When oxygen falls below 1.0 mg/L, phosphorus bound to the bottom sediments is released into the water column.

This is known as *internal loading*. The high hypolimnetic phosphorus concentrations can be attributed to this process and also to the turbidity of the samples. The internal supply of phosphorus is not as great in the South Station as it is in the North Station, however it is still a concern.

- The internal source of phosphorus combined with external sources from the watershed caused persistent algae blooms in June and July. The monitors noted that these blooms were bright green, which is indicative of blue-green algae blooms. A sample of the algae was collected in July by DES biologists who were on the lake at that time. The bloom was identified as the blue-green algae *Oscillatoria*. Blue-green algae can reach nuisance levels when sufficient nutrients and favorable environmental conditions are present. Some species of blue-greens are capable of producing toxins and can be of concern if blooms continue to appear in the lake. We recommend taking a plankton haul once a month in the summer in both stations to document what nuisance species are present. If you would like to conduct extra plankton sampling, please contact the VLAP coordinator at 271-2658. We will be happy to train the volunteers to conduct this test and borrow equipment when needed. Continued care to protect the watershed by limiting or eliminating fertilizer use on lawns, keeping the lake shoreline natural and free of sandy beaches, and properly maintaining septic systems and roads will keep algae populations in balance.

#### **NOTES**

- Monitor's Note (7/18/00): Lots of floating algae particles, bright green.
- Monitor's Note (8/22/00): Chunks blue-green algae floating everywhere.

#### **USEFUL RESOURCES**

*The Blue Green Algae*. North American Lake Management Society, 1989. (608) 233-2836 or [www.nalms.org](http://www.nalms.org)

*Minimum Shoreland Protection Standards*, WD-BB-36, NHDES Fact Sheet. (603) 271-3503 or [www.state.nh.us](http://www.state.nh.us)

*The DES Wetlands Bureau Review of Bank/Shoreline Stabilization Applications*, WD-WB-11, NHDES Fact Sheet, (603) 271-3503 or [www.state.nh.us](http://www.state.nh.us)

*Lake Eutrophication*, WD-BB-3, NHDES Fact Sheet, (603) 271-3503 or [www.state.nh.us](http://www.state.nh.us)

*Proper Lawn Care Can Protect Waters*, WD-BB-31, NHDES Fact Sheet, (603) 271-3503 or [www.state.nh.us](http://www.state.nh.us)

*In Our Backyard*. 1994. Terrence Institute, 4 Herbert St., Alexandria, VA. 22305, or call (800) 726-4853.

*Sand Dumping - Beach Construction*, WD-BB-15, NHDES Fact Sheet, (603) 271-3503 or [www.state.nh.us](http://www.state.nh.us)

*Anthropogenic Phosphorus and New Hampshire Waterbodies*, NHDES-WSPCD-95-6, NHDES Booklet, (603) 271-3503

*Vegetated Phosphorus Buffer Strips*, NH Lakes Association pamphlet, (603) 226-0299 or [www.nhlakes.org](http://www.nhlakes.org)

*Clean Water in Your Watershed*. Terrene Institute, 1993. (800) 726-5253, or [www.terrene.org](http://www.terrene.org).

*Best Management Practices to Control Nonpoint Source Pollution: A Guide for Citizens and Town Officials*, NHDES-WD 97-8, NHDES Booklet, (603) 271-3503

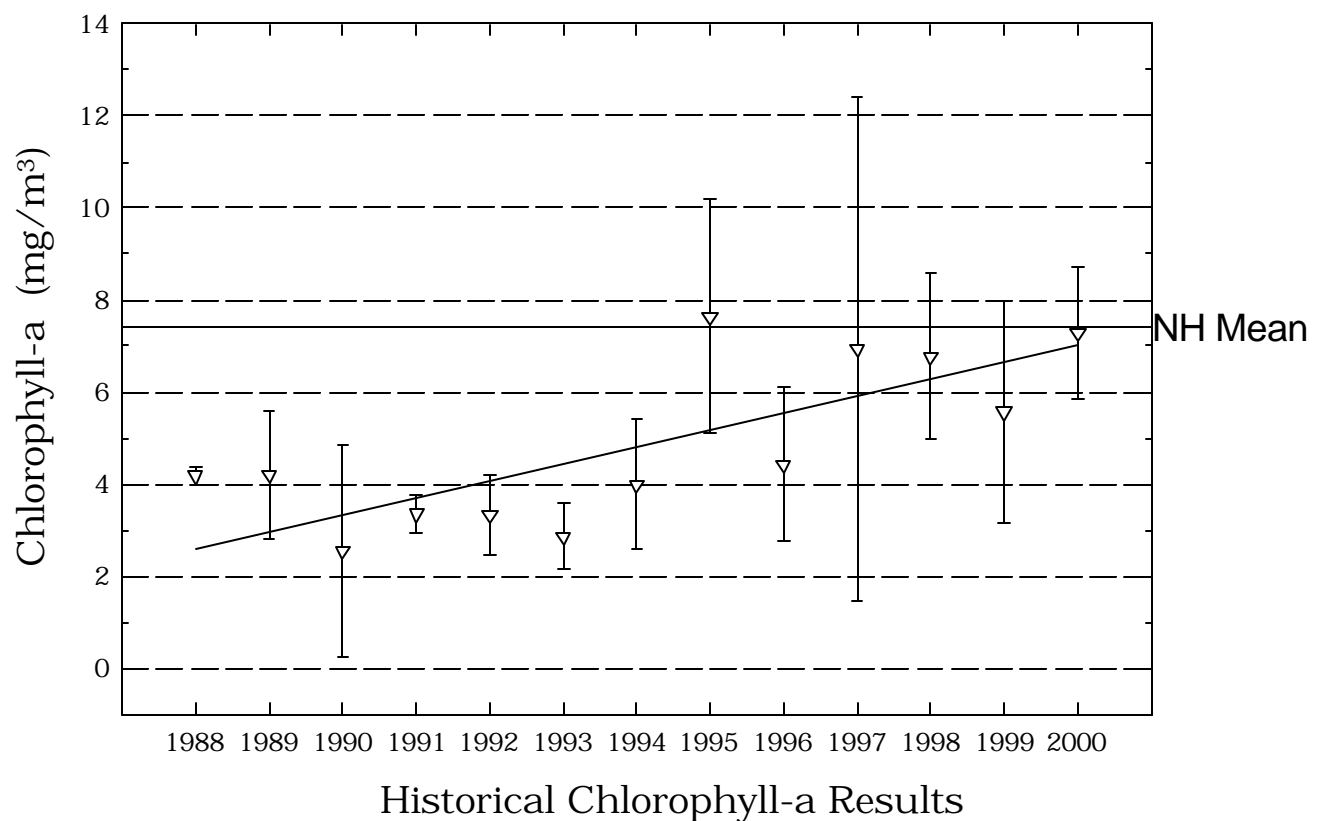
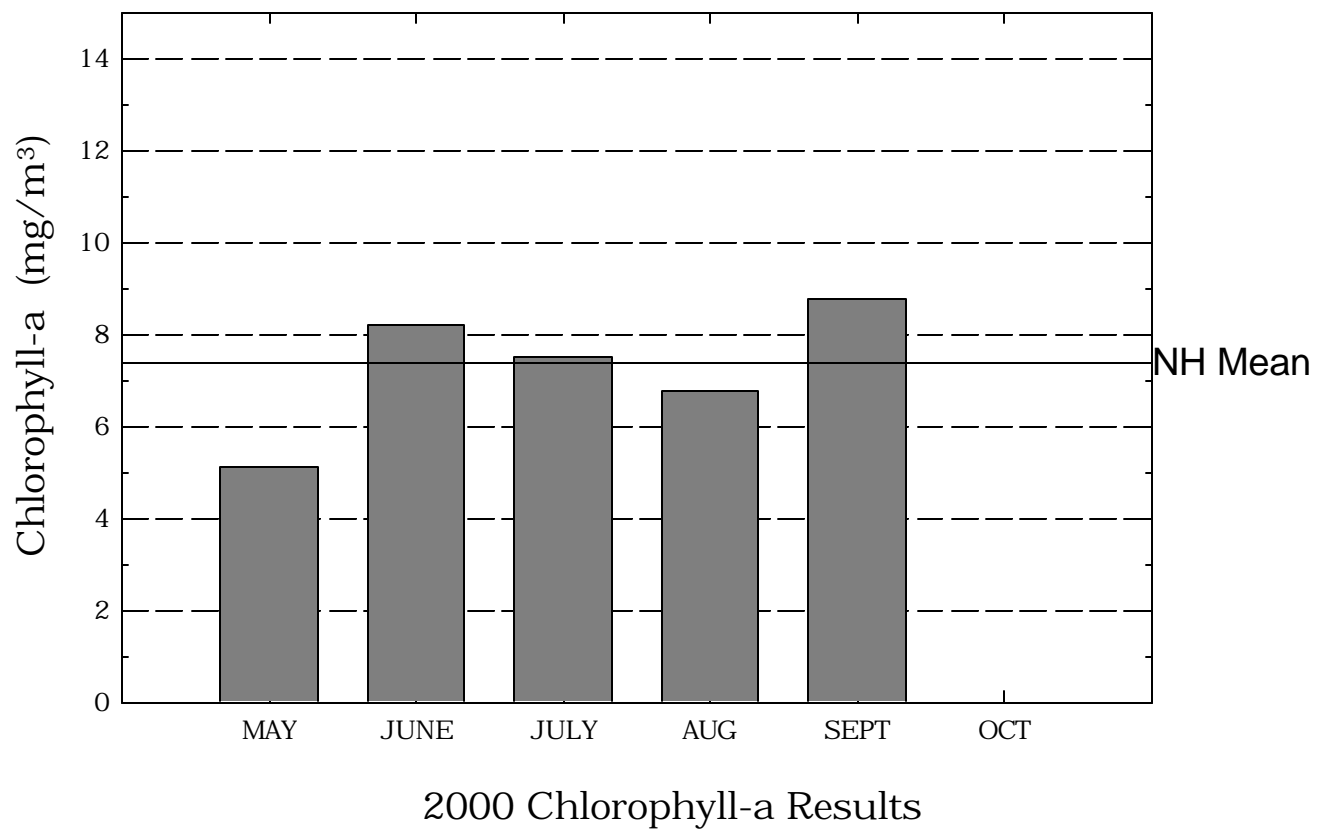
*Water Milfoil*, WD-BB-1, NHDES Fact Sheet, (603) 271-3503 or [www.state.nh.us](http://www.state.nh.us)

*Safe Boating*, NH Lakes Association pamphlet, (603) 226-0299 or [www.nhlakes.org](http://www.nhlakes.org)

*The Blue Green Algae*. North American Lake Management Society, 1989. (608) 233-2836 or [www.nalms.org](http://www.nalms.org)

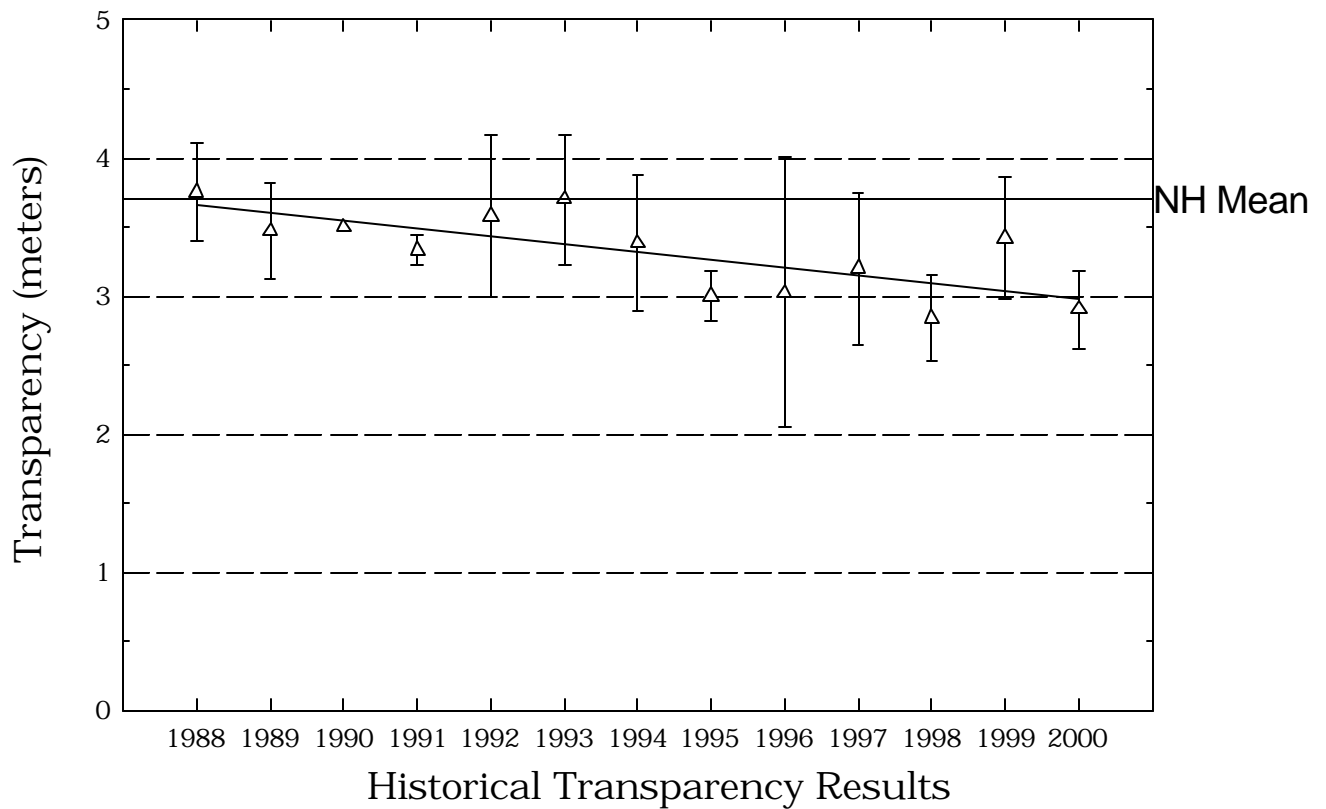
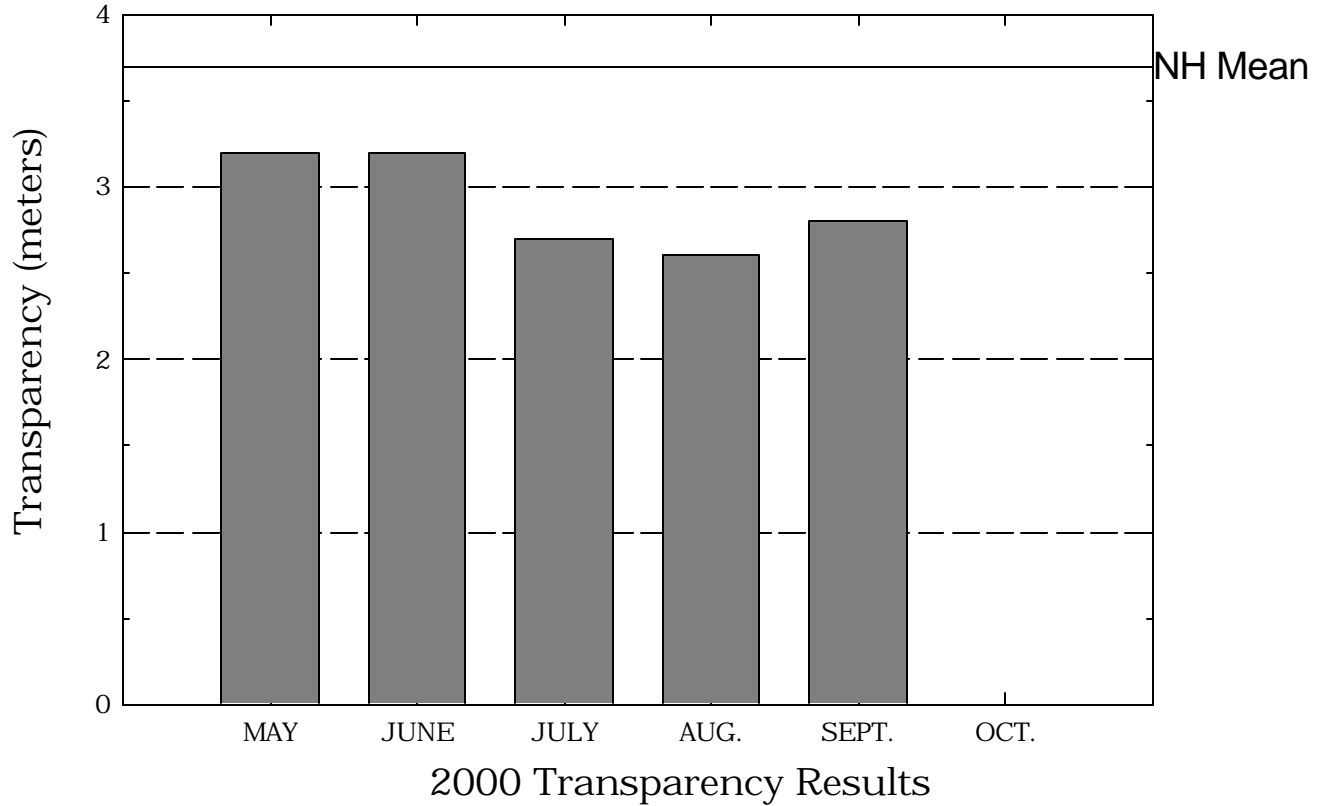
# Pawtuckaway Lake, North

**Figure 1.** Monthly and Historical Chlorophyll-a Results



# Pawtuckaway Lake, North

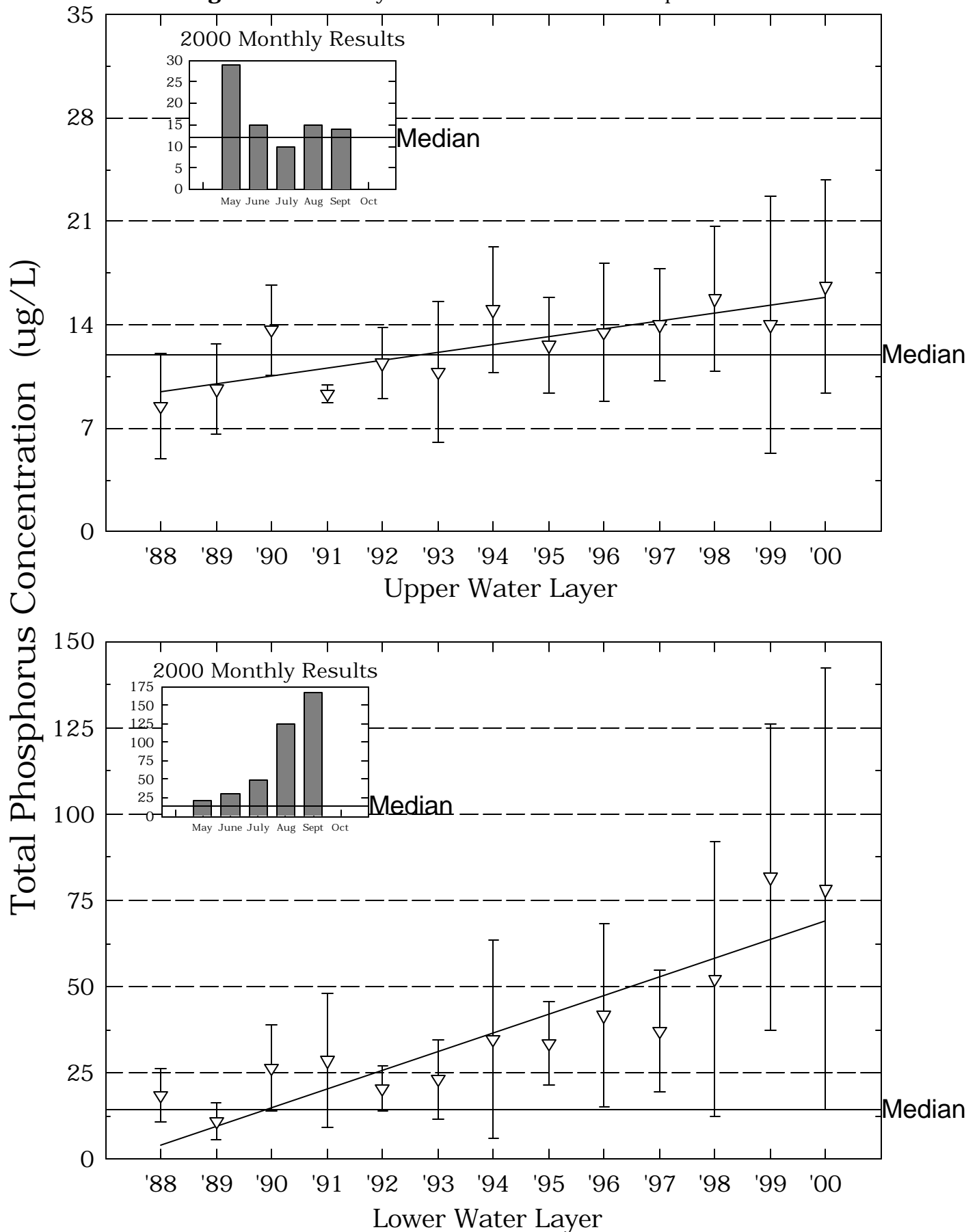
**Figure 2.** Monthly and Historical Transparency Results





# Pawtuckaway Lake, North

**Figure 3.** Monthly and Historical Total Phosphorus Data.



**Table 1.****PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM****Chlorophyll-a results (mg/m<sup>3</sup>) for current year and historical  
sampling periods.**

<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
1988	4.05	4.32	4.18
1989	2.96	5.69	4.18
1990	0.14	4.76	2.54
1991	3.06	3.63	3.34
1992	0.00	4.32	2.76
1993	1.78	3.46	2.92
1994	2.37	5.48	3.99
1995	5.12	11.33	7.63
1996	2.23	6.24	4.42
1997	2.18	16.38	6.92
1998	3.01	15.43	7.47
1999	3.27	8.25	5.56
2000	5.12	8.79	7.27

**Table 2.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Phytoplankton species and relative percent abundance.**

**Summary for current and historical sampling seasons.**

<b>Date of Sample</b>	<b>Species Observed</b>	<b>Relative % Abundance</b>
07/12/1988	SPHAEROCYSTIS	41
	ASTERIONELLA	40
07/25/1989	COELOSPHAERIUM	36
	SPHAEROCYSTIS	32
	MICROCYSTIS	28
07/24/1990	CHROOCOCUS	66
07/08/1991	ASTERIONELLA	37
	STAUSTRUM	15
06/10/1992	ASTERIONELLA	59
	TABELLARIA	32
	DINOBRYON	24
06/08/1993	TABELLARIA	91
06/23/1993	DINOBRYON	47
	TABELLARIA	36
08/09/1994	COELOSPHAERIUM	32
	TABELLARIA	15
08/21/1995	DINOBRYON	41
	CHRYSPHAERELLA	23
	STAUSTRUM	16
08/20/1996	TABELLARIA	29
	ASTERIONELLA	11
	STAUSTRUM	9
08/19/1997	DINOBRYON	39
	SYNURA	36
	TABELLARIA	6

**Table 2.****PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM****Phytoplankton species and relative percent abundance.  
Summary for current and historical sampling seasons.**

<b>Date of Sample</b>	<b>Species Observed</b>	<b>Relative % Abundance</b>
08/18/1998	SPHAEROCYSTIS	34
	ANABAENA	11
	MALLOMONAS	10
08/17/1999	CERATIUM	27
	CHRYSOSPHAERELLA	18
	TABELLARIA	14
08/22/2000	DINOBRYON	35
	RHIZOLENIA	12
	COSMARIUM	12

**Table 3.****PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM****Summary of current and historical Secchi Disk  
transparency results (in meters).**

<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
1988	3.5	4.0	3.7
1989	3.1	3.8	3.4
1990	3.5	3.5	3.5
1991	3.2	3.4	3.3
1992	3.0	4.5	3.5
1993	2.6	4.4	3.4
1994	2.8	4.0	3.3
1995	2.7	3.2	3.0
1996	2.1	4.4	3.0
1997	2.6	4.0	3.2
1998	2.4	4.2	3.1
1999	2.7	3.8	3.4
2000	2.6	3.2	2.9

**Table 4.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.  
Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#03 LOON COVE B	1989	6.56	6.64	6.60
	1990	6.80	6.84	6.82
	1991	6.60	6.90	6.72
	1994	6.92	6.92	6.92
#04 MOUNTAIN BK	1988	6.41	6.98	6.61
	1989	6.79	6.84	6.81
	1990	6.24	7.01	6.56
	1991	3.70	6.80	4.18
	1992	6.51	6.73	6.60
	1993	6.54	6.80	6.63
	1994	6.49	6.72	6.60
	1995	6.65	6.97	6.79
	1996	6.31	6.55	6.43
	1997	6.52	7.02	6.69
	1998	6.57	7.00	6.70
	1999	6.43	6.71	6.57
	2000	6.40	6.70	6.59
#07 WHITE GROVE BK	1988	6.44	6.44	6.44
	1989	6.07	6.47	6.24
	1990	6.24	6.63	6.39
	1992	6.12	7.08	6.38
	1993	6.16	6.18	6.17

**Table 4.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.  
Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#08 FERNALDS A	1994	5.82	6.24	5.98
	1995	5.99	6.56	6.19
	1996	5.86	5.96	5.91
	1997	6.12	6.57	6.29
	1998	5.89	6.54	6.10
	1999	5.98	5.98	5.98
	2000	5.92	6.12	6.02
#08 FERNALDS A	1988	6.82	6.82	6.82
	1989	6.89	6.93	6.91
	1990	6.76	7.30	6.94
	1991	6.80	7.16	6.93
	1992	6.53	7.08	6.74
	1993	6.59	6.98	6.73
	1994	6.56	6.77	6.65
	1995	6.59	6.84	6.71
	1996	6.43	6.71	6.54
	1997	6.64	6.97	6.75
	1998	6.63	6.83	6.71
	1999	6.22	6.77	6.49
	2000	6.51	6.81	6.66
#08D FERNALDS	1994	6.09	6.09	6.09

**Table 4.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.  
Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#08F UPSTREAM	1993	6.40	6.62	6.50
	1994	6.54	6.55	6.55
	1995	6.55	6.75	6.64
	1996	6.61	6.61	6.61
	1997	6.58	6.58	6.58
	1998	6.59	6.71	6.65
	1999	6.48	6.48	6.48
	2000	6.50	6.72	6.59
#09 FERNALDS B	1988	6.81	6.81	6.81
	1989	6.29	6.29	6.29
	1991	6.90	6.90	6.90
	1994	6.35	6.35	6.35
	1996	6.45	6.45	6.45
#11 BACK CREEK B	1988	6.59	6.59	6.59
	1989	6.15	6.56	6.33
	1990	5.94	6.89	6.29
	1991	6.50	6.91	6.71
	1992	6.50	6.85	6.62
	1993	6.44	6.80	6.63
	1994	6.08	6.84	6.49
	1995	6.47	6.80	6.67
	1996	5.87	6.68	6.22



**Table 4.****PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.  
Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#13 FUNDY BK	1997	6.46	6.84	6.63
	1998	6.13	6.57	6.38
	1999	6.20	6.88	6.48
	2000	6.41	6.63	6.51
#14 ROUND POND BK	1988	5.01	5.14	5.07
	1989	5.02	5.41	5.18
	1990	5.29	5.55	5.39
	1991	5.38	5.70	5.49
	1992	5.23	5.76	5.49
	1993	5.43	5.61	5.53
	1994	4.90	5.49	5.18
	1995	5.19	5.62	5.44
	1996	4.88	5.75	5.31
	1997	5.30	5.55	5.37
	1998	5.08	5.29	5.18
	1999	5.19	5.61	5.43
	2000	5.15	5.33	5.24
#15 ROUND POND BK	1988	6.36	6.56	6.45
	1989	6.31	6.49	6.41
	1990	6.48	6.80	6.65
	1991	6.60	6.76	6.69
	1992	6.44	6.72	6.55
	1993	6.31	6.67	6.45

**Table 4.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.  
Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1994	6.30	6.64	6.46
	1995	5.58	6.68	6.13
	1996	6.01	6.32	6.21
	1997	6.45	6.81	6.62
	1998	6.22	6.25	6.23
	1999	6.06	6.39	6.19
	2000	6.26	6.48	6.36
#21 BACK CREEK DEERF				
	1993	6.39	6.39	6.39
	1994	5.89	6.25	6.03
#23 ROUND POND BLDR				
	1993	6.47	6.47	6.47
	1994	6.50	6.70	6.59
BACK CREEK A				
	1988	6.64	6.84	6.73
	1989	6.44	6.76	6.61
	1990	6.97	6.97	6.97
	1991	6.50	7.29	6.68
DOLLOFF DAM				
	1988	6.70	6.74	6.72
	1989	6.83	7.03	6.92
	1991	6.90	6.97	6.93

**Table 4.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.  
Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
DROWNS DAM	1988	6.13	6.75	6.34
	1989	6.45	6.87	6.62
	1990	6.56	6.56	6.56
	1991	6.40	6.84	6.59
EPILIMNION	1988	6.68	6.85	6.76
	1989	6.50	7.70	6.79
	1990	6.73	6.96	6.83
	1991	6.61	6.80	6.71
	1992	5.09	6.75	5.74
	1993	6.36	6.78	6.56
	1994	6.60	6.70	6.63
	1995	6.69	6.83	6.75
	1996	6.12	6.67	6.30
	1997	6.47	6.91	6.69
	1998	4.05	6.76	4.82
	1999	6.41	6.63	6.51
	2000	6.42	6.78	6.54
GOVE DAM	1989	6.22	6.50	6.37
	1990	6.57	6.65	6.61
	1991	6.40	6.61	6.49

**Table 4.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.  
Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
HYPOLIMNION	1988	5.93	5.93	5.93
	1989	6.10	7.70	6.42
	1990	5.90	6.55	6.11
	1991	6.10	6.80	6.28
	1992	5.91	6.18	6.02
	1993	5.79	6.18	5.98
	1994	5.82	6.37	6.01
	1995	6.08	6.69	6.27
	1996	5.63	5.99	5.85
	1997	6.12	6.51	6.23
	1998	6.06	6.71	6.27
	1999	6.05	6.34	6.17
	2000	6.04	6.39	6.20
LOON COVE A	1989	5.58	5.58	5.58
	1990	6.60	6.65	6.62
	1991	6.70	7.02	6.87
LOON COVE B&C	1990	6.73	6.73	6.73
LOON COVE C	1989	6.62	6.62	6.62

**Table 4.****PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.**  
**Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
METALIMNION	1988	6.08	6.29	6.17
	1989	6.33	7.70	6.59
	1990	6.08	6.80	6.40
	1991	6.40	6.94	6.56
	1992	4.18	6.68	4.87
	1993	6.30	6.47	6.37
	1994	5.93	6.62	6.29
	1995	6.16	7.03	6.48
	1996	5.67	6.10	5.93
	1997	6.10	6.34	6.23
	1998	5.82	6.51	5.96
	1999	5.87	6.05	5.99
	2000	5.95	6.19	6.04
NEIL'S COVE	1989	6.72	6.72	6.72

**Table 5.****PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM****Summary of current and historical Acid Neutralizing Capacity.  
Values expressed in mg/L as CaCO<sub>3</sub>.****Epilimnetic Values**

<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
1988	3.80	4.20	4.00
1989	4.00	4.10	4.03
1990	4.10	4.70	4.40
1991	3.50	4.40	4.03
1992	3.30	4.80	4.03
1993	3.40	3.80	3.56
1994	3.10	4.10	3.66
1995	3.64	4.80	4.21
1996	3.30	4.40	3.85
1997	2.30	4.10	3.40
1998	3.50	3.80	3.64
1999	3.70	4.20	3.92
2000	3.40	4.50	3.94

**Table 6.****PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM****Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#03 LOON COVE B	1989	31.5	34.4	32.9
	1990	32.3	40.0	36.1
	1991	29.1	37.4	33.2
	1994	38.7	38.7	38.7
#04 MOUNTAIN BK	1988	44.4	44.4	44.4
	1989	37.5	40.2	38.8
	1990	37.7	49.4	41.7
	1991	45.6	125.0	73.4
	1992	40.8	51.5	44.6
	1993	41.1	76.0	58.2
	1994	39.5	55.3	46.5
	1995	38.0	58.8	46.7
	1996	34.0	64.0	44.6
	1997	32.6	55.0	45.9
	1998	34.0	64.4	45.8
	1999	42.9	77.5	59.2
	2000	36.7	53.1	43.3
#07 WHITE GROVE BK	1988	140.1	140.1	140.1
	1989	120.5	129.6	124.6
	1990	126.5	135.1	130.7
	1992	121.0	158.3	134.5
	1993	115.7	120.0	117.8

**Table 6.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1994	135.4	141.8	138.6
	1995	121.1	131.0	126.0
	1996	109.8	111.5	110.6
	1997	97.0	112.3	104.6
	1998	99.5	117.7	108.6
	1999	134.9	134.9	134.9
	2000	101.8	126.8	113.7
#08 FERNALDS A				
	1988	18.9	18.9	18.9
	1989	211.9	2030.0	1120.9
	1990	153.5	189.0	171.1
	1991	163.6	185.8	173.6
	1992	153.8	208.0	179.6
	1993	170.3	212.0	191.0
	1994	170.2	197.0	182.3
	1995	135.0	170.9	153.7
	1996	121.6	151.7	136.7
	1997	115.5	146.2	134.4
	1998	114.7	139.2	123.5
	1999	140.8	190.6	172.6
	2000	109.6	166.1	138.9
#08D FERNALDS				
	1994	382.2	382.2	382.2
#08F UPSTREAM				
	1993	147.1	179.0	163.0



**Table 6.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1994	187.3	238.6	212.9
	1995	179.6	218.0	198.8
	1996	178.6	178.6	178.6
	1997	165.7	165.7	165.7
	1998	202.0	203.0	202.5
	1999	205.7	205.7	205.7
	2000	189.4	395.0	293.3
#09 FERNALDS B				
	1988	44.2	44.2	44.2
	1989	37.4	37.4	37.4
	1991	45.7	45.7	45.7
	1994	373.0	373.0	373.0
	1996	21.3	21.3	21.3
#11 BACK CREEK B				
	1988	47.3	47.3	47.3
	1989	27.3	47.6	40.3
	1990	43.6	55.9	50.8
	1991	45.4	46.4	45.9
	1992	39.5	48.0	43.8
	1993	45.1	58.9	52.9
	1994	42.5	61.9	54.2
	1995	44.3	51.3	47.5
	1996	39.4	48.0	43.5
	1997	37.4	47.0	43.2
	1998	36.6	44.0	39.4
	1999	36.8	59.6	48.1

**Table 6.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#13 FUNDY BK	2000	42.6	48.1	45.1
	1988	43.8	44.7	44.2
	1989	39.7	42.8	41.7
	1990	40.5	45.7	42.5
	1991	34.4	39.2	36.4
	1992	31.2	134.4	52.9
	1993	42.8	50.3	46.9
	1994	44.3	53.5	49.4
	1995	33.9	48.7	43.0
	1996	38.8	47.0	42.5
	1997	30.4	38.9	35.2
	1998	30.4	37.8	33.5
	1999	24.7	40.0	34.1
	2000	40.4	50.6	47.1
#14 ROUND POND BK	1988	28.2	29.8	29.0
	1989	26.5	29.1	27.9
	1990	28.2	29.9	29.0
	1991	29.3	34.1	31.1
	1992	29.6	132.8	50.8
	1993	25.1	41.7	33.0
	1994	27.4	36.2	31.3
	1995	27.7	39.6	32.2

**Table 6.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1996	27.5	29.0	28.0
	1997	23.7	31.6	27.6
	1998	25.3	25.4	25.3
	1999	27.7	31.9	29.8
	2000	26.5	27.5	27.0
#21 BACK CREEK DEERF				
	1993	43.9	43.9	43.9
	1994	41.2	55.2	48.2
#23 ROUND POND BLDR				
	1993	35.3	35.3	35.3
	1994	36.3	40.0	38.1
BACK CREEK A				
	1988	38.6	47.3	42.9
	1989	33.1	44.2	37.4
	1990	31.2	31.2	31.2
	1991	33.2	43.9	37.2
DOLLOFF DAM				
	1988	41.8	44.7	43.2
	1989	45.6	45.8	45.7
	1990	46.5	46.5	46.5
	1991	40.7	44.7	43.1
DROWNS DAM				
	1988	40.0	42.7	41.4
	1989	43.3	45.3	44.3
	1990	44.0	44.0	44.0

**Table 6.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
EPILIMNION	1991	41.1	47.2	43.2
	1988	42.1	43.3	42.7
	1989	46.5	48.4	47.4
	1990	47.9	48.3	48.1
	1991	41.6	43.6	42.4
	1992	42.8	68.8	48.7
	1993	41.6	43.6	42.7
	1994	45.8	47.6	46.6
	1995	42.4	45.0	44.1
	1996	42.4	42.7	42.5
	1997	38.2	39.6	38.7
	1998	35.4	43.1	37.1
GOVE DAM	1999	44.1	47.0	45.5
	2000	41.9	44.7	43.8
HYPOLIMNION	1989	54.6	66.5	59.2
	1990	43.2	61.2	50.8
	1991	42.8	75.3	59.0
	1988	45.1	47.9	46.5
	1989	47.9	50.9	49.7
	1990	48.3	51.8	50.4
	1991	42.8	48.9	45.1
	1992	45.1	47.0	46.1

**Table 6.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1993	43.7	49.2	45.4
	1994	47.8	57.2	51.1
	1995	42.5	54.5	48.3
	1996	45.4	51.2	48.0
	1997	40.4	52.3	45.0
	1998	47.3	58.4	54.0
	1999	47.0	62.6	54.8
	2000	43.5	62.6	53.6
LOON COVE A				
	1990	23.5	30.0	26.7
	1991	34.7	40.4	36.9
LOON COVE B&C				
	1990	27.9	27.9	27.9
LOON COVE C				
	1989	33.1	33.1	33.1
METALIMNION				
	1988	43.9	44.0	44.0
	1989	47.9	48.8	48.3
	1990	47.3	49.6	48.1
	1991	42.3	43.8	42.9
	1992	42.4	115.0	58.8
	1993	41.9	44.4	42.9
	1994	46.5	49.3	47.6
	1995	43.6	45.4	44.6

**Table 6.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1996	42.2	44.3	43.2
	1997	38.3	40.1	39.0
	1998	38.8	44.1	41.0
	1999	45.8	47.6	46.6
	2000	42.8	48.1	45.6

**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#03 LOON COVE B	1989	21	44	32
	1990	47	94	70
	1991	41	45	43
	1994	24	24	24
#04 MOUNTAIN BK	1988	44	49	46
	1989	30	56	39
	1990	38	42	39
	1991	39	58	47
	1992	19	44	35
	1993	26	52	42
	1994	15	80	50
	1995	29	47	38
	1996	20	55	38
	1997	19	54	39
	1998	18	48	28
	1999	30	39	35
	2000	24	33	27
#07 WHITE GROVE BK	1988	56	56	56
	1989	6	27	16
	1990	11	31	24
	1992	11	22	14
	1993	10	34	22

**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1994	5	11	8
	1995	12	12	12
	1996	9	19	14
	1997	15	21	18
	1998	10	27	18
	1999	10	10	10
	2000	9	13	11
#08 FERNALDS A				
	1988	11	11	11
	1989	4	207	102
	1990	90	138	115
	1991	111	190	143
	1992	47	116	78
	1993	15	156	89
	1994	64	128	92
	1995	46	72	63
	1996	55	164	93
	1997	96	200	147
	1998	164	260	209
	1999	13	277	148
	2000	72	160	114
#08D FERNALDS				
	1994	144	144	144
#08F UPSTREAM				
	1993	9	815	412



**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1994	660	1500	1080
	1995	429	1590	1009
	1996	537	537	537
	1997	532	532	532
	1998	972	2540	1756
	1999	1190	1190	1190
	2000	454	1180	924
#09 FERNALDS B				
	1988	26	26	26
	1989	34	34	34
	1991	28	28	28
	1994	530	530	530
#11 BACK CREEK B	1996	1550	1550	1550
	1988	51	51	51
	1989	32	39	35
	1990	34	61	49
	1991	39	54	47
	1992	19	40	27
	1993	14	48	27
	1994	16	43	27
	1995	26	43	34
	1996	16	32	23
	1997	20	39	27
	1998	12	39	24
	1999	9	33	23

**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#13 FUNDY BK	2000	15	25	21
	1988	85	97	91
	1989	42	61	52
	1990	40	64	50
	1991	40	62	51
	1992	25	70	45
	1993	19	60	41
	1994	19	120	62
	1995	36	107	63
	1996	17	71	45
	1997	24	55	45
	1998	22	92	51
	1999	30	53	43
	2000	20	28	24
#14 ROUND POND BK	1988	55	78	66
	1989	36	75	51
	1990	41	104	66
	1991	41	126	78
	1992	20	55	39
	1993	13	87	48
	1994	17	39	28
	1995	24	57	33

**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1996	15	26	20
	1997	17	34	22
	1998	17	44	30
	1999	20	34	28
	2000	15	18	16
#21 BACK CREEK DEERF				
	1993	29	29	29
	1994	20	35	27
#23 ROUND POND BLDR				
	1993	81	81	81
	1994	53	76	64
BACK CREEK A				
	1988	41	50	45
	1989	12	47	27
	1990	25	25	25
	1991	7	48	30
DOLLOFF DAM				
	1988	10	10	10
	1989	6	8	7
	1990	19	19	19
	1991	3	18	8
DROWNS DAM				
	1988	17	23	20
	1989	12	16	14
	1990	13	13	13

**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
EPILIMNION	1991	12	19	16
	1988	6	11	8
	1989	7	13	9
	1990	11	17	13
	1991	9	10	9
	1992	8	14	11
	1993	7	26	13
	1994	11	21	15
	1995	10	18	12
	1996	8	19	13
	1997	8	18	14
	1998	10	22	13
	1999	8	29	14
	2000	10	29	16
GOVE DAM				
	1989	34	59	47
	1990	39	44	41
HYPOLIMNION	1991	18	43	30
	1988	13	24	18
	1989	5	14	11
	1990	12	34	26
	1991	15	51	28
	1992	13	28	20

**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
LOON COVE A	1993	15	39	23
	1994	10	73	34
	1995	22	48	33
	1996	13	69	41
	1997	14	59	37
	1998	17	109	67
	1999	45	152	81
	2000	21	167	78
LOON COVE B&C	1990	13	50	31
	1991	25	37	33
LOON COVE C	1990	45	45	45
	1989	53	53	53
METALIMNION	1988	17	18	17
	1989	10	13	11
	1990	16	23	18
	1991	7	14	11
	1992	9	18	12
	1993	8	19	11
	1994	11	16	13
	1995	12	17	14

**Table 8.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1996	8	12	10
	1997	12	19	15
	1998	11	22	15
	1999	9	34	17
	2000	7	19	12

**Table 9.**  
**PAWTUCKAWAY LAKE, NORTH**  
**NOTTINGHAM**

**Current year dissolved oxygen and temperature data.**

<b>Depth</b> (meters)	<b>Temperature</b> (celsius)	<b>Dissolved Oxygen</b> (mg/L)	<b>Saturation</b> (%)
<b>August 22, 2000</b>			
0.1	22.4	7.3	84.1
1.0	21.9	7.2	82.1
2.0	21.6	6.9	78.3
3.0	21.6	6.9	77.7
4.0	21.5	6.8	77.2
5.0	21.0	6.0	67.3
6.0	16.1	0.1	1.2
7.0	12.9	0.1	1.4
8.0	11.2	0.1	1.0
9.0	10.3	0.1	1.1
10.0	9.9	0.1	1.1
11.0	9.6	0.1	1.3
12.0	9.2	0.2	1.5
13.0	9.2	0.2	1.5
14.0	9.1	0.2	1.5
14.5	9.1	0.2	2.1

**Table 10.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Historic Hypolimnetic dissolved oxygen and temperature data.**

<b>Date</b>	<b>Depth</b> (meters)	<b>Temperature</b> (celsius)	<b>Dissolved Oxygen</b> (mg/L)	<b>Saturation</b> (%)
July 12, 1988	13.5	7.9	0.4	3.0
July 24, 1989	15.0	8.2	0.6	5.0
July 24, 1990	13.5	7.8	0.9	7.5
July 8, 1991	14.0	7.9	0.2	1.7
June 14, 1992	14.0	8.0	1.8	15.1
June 8, 1993	12.0	7.0	3.7	30.0
July 13, 1993	14.0	9.0	0.3	3.0
August 9, 1994	14.0	7.5	0.2	2.0
August 21, 1995	13.5	6.9	0.2	2.0
August 20, 1996	14.0	7.2	0.3	3.0
August 19, 1997	12.0	8.2	0.1	1.0
August 11, 1998	14.5	8.9	0.3	2.0
August 18, 1998	14.0	8.8	0.2	2.0
August 17, 1999	14.0	9.1	0.1	1.1
August 22, 2000	14.5	9.1	0.2	2.1



**Table 11.**

**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary of current year and historic turbidity sampling.  
Results in NTU's.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
#04 MOUNTAIN BK	1997	1.5	3.4	2.7
	1998	0.5	5.0	2.4
	1999	1.3	8.5	4.6
	2000	0.8	2.3	1.3
#07 WHITE GROVE BK	1997	1.2	1.2	1.2
	1998	0.1	2.3	1.2
	1999	0.0	0.1	0.0
	2000	0.2	0.3	0.3
#08 FERNALDS A	1997	1.2	2.8	2.1
	1998	0.5	4.9	2.4
	1999	0.9	3.0	1.9
	2000	0.6	1.2	0.9
#08F UPSTREAM	1998	3.2	4.2	3.7
	1999	1.8	1.8	1.8
	2000	0.7	4.8	2.8
#11 BACK CREEK B	1997	0.3	0.7	0.4
	1998	0.3	0.9	0.5
	1999	0.4	0.6	0.6
	2000	0.4	0.8	0.6
#13 FUNDY BK				

**Table 11.**

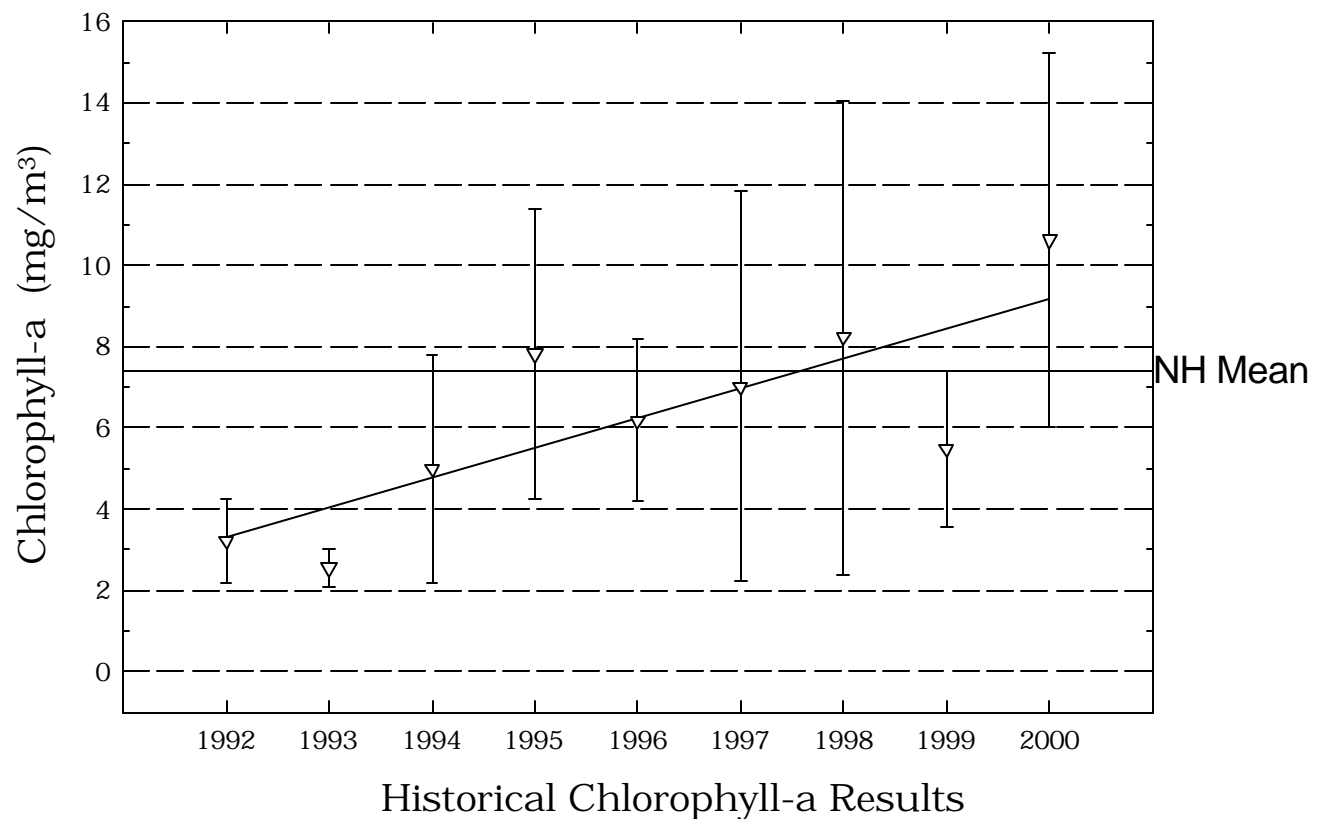
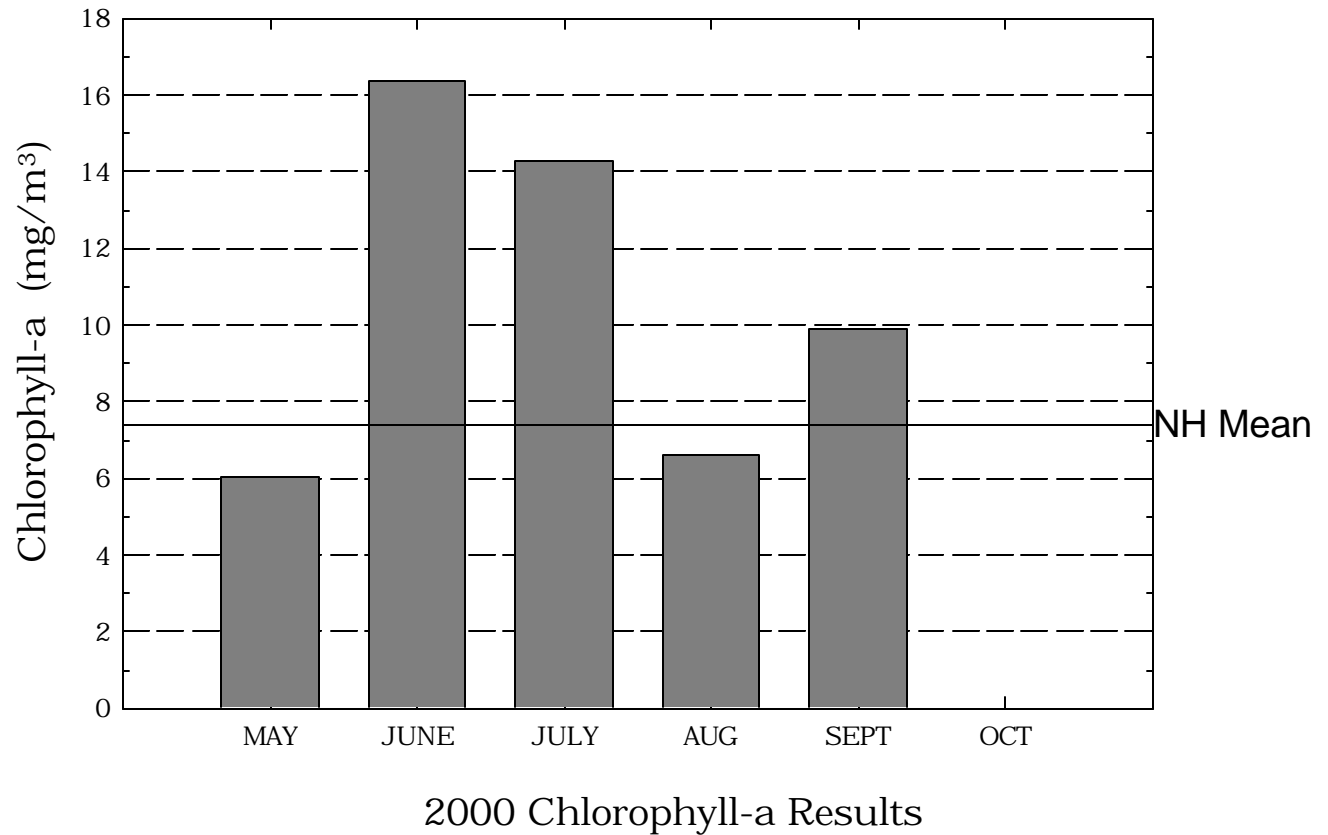
**PAWTUCKAWAY LAKE, NORTH  
NOTTINGHAM**

**Summary of current year and historic turbidity sampling.  
Results in NTU's.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
	1997	0.6	1.1	0.8
	1998	0.4	2.3	1.3
	1999	0.5	2.1	1.0
	2000	0.3	0.5	0.4
#14 ROUND POND BK				
	1997	0.2	0.3	0.3
	1998	0.3	0.8	0.5
	1999	0.4	1.4	0.7
	2000	0.2	0.3	0.3
EPILIMNION				
	1997	0.3	0.5	0.4
	1998	0.6	1.2	1.0
	1999	0.4	0.9	0.6
	2000	0.3	0.5	0.5
HYPOLIMNION				
	1997	0.5	8.4	3.7
	1998	1.3	9.9	4.8
	1999	1.3	11.5	5.2
	2000	0.7	6.1	2.9
METALIMNION				
	1997	0.4	0.6	0.5
	1998	0.4	2.0	1.2
	1999	0.4	1.2	0.7
	2000	0.4	1.7	0.7

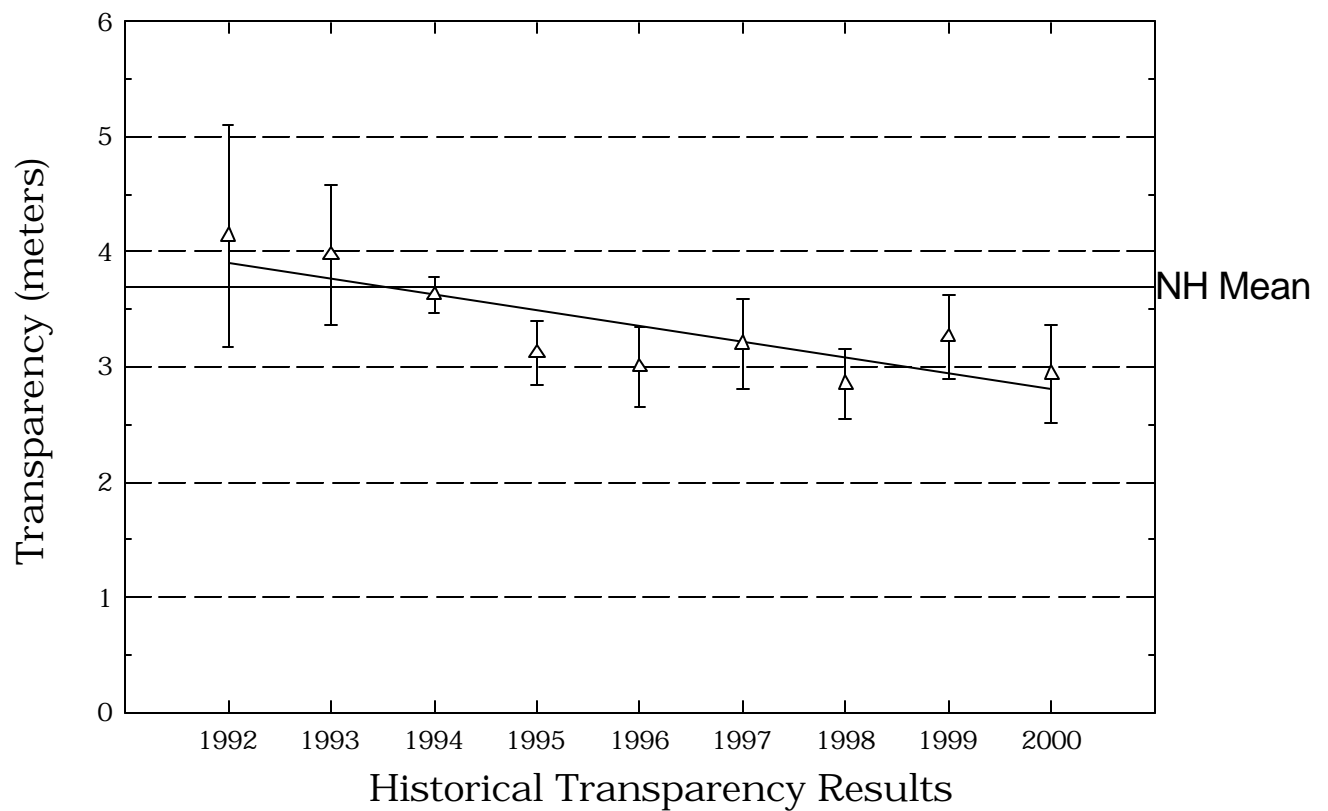
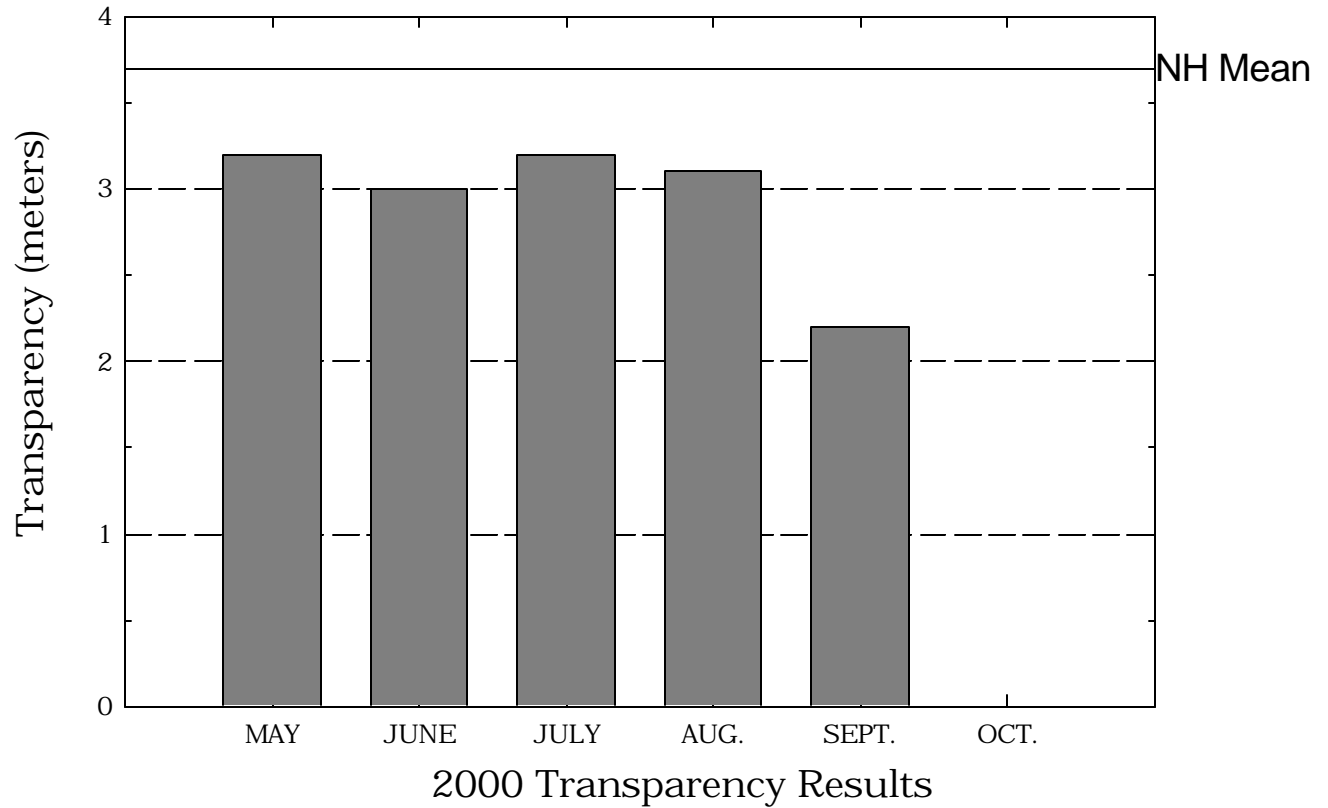
# Pawtuckaway Lake, South

**Figure 1.** Monthly and Historical Chlorophyll-a Results



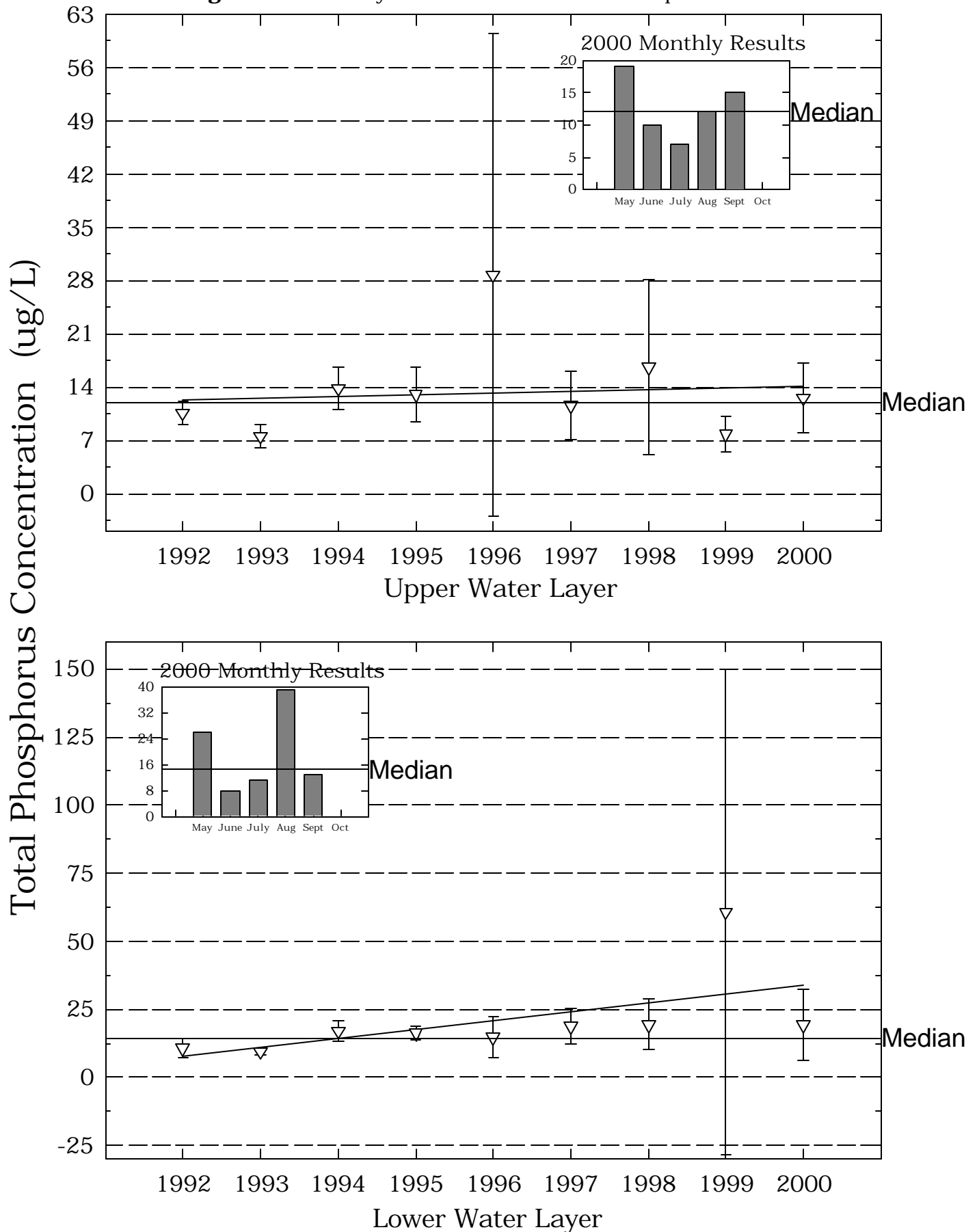
# Pawtuckaway Lake, South

**Figure 2.** Monthly and Historical Transparency Results



# Pawtuckaway Lake, South

**Figure 3.** Monthly and Historical Total Phosphorus Data.



**Table 2.**

**PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM**

**Phytoplankton species and relative percent abundance.**

**Summary for current and historical sampling seasons.**

<b>Date of Sample</b>	<b>Species Observed</b>	<b>Relative % Abundance</b>
06/10/1992	ASTERIONELLA	34
	STEPHANODISCUS	19
	TABELLARIA	17
06/08/1993	ASTERIONELLA	54
	TABELLARIA	36
06/23/1993	ASTERIONELLA	71
	TABELLARIA	21
08/09/1994	DINOBRYON	68
	COELOSPHAERIUM	15
08/21/1995	DINOBRYON	52
	STAURASTRUM	13
	ARTHRODESMUS	9
08/20/1996	CHRYSOSPHAERELLA	36
	DINOBRYON	23
	MELOSIRA	16
08/19/1997	DINOBRYON	83
	OSCILLATORIA	11
	STAURASTRUM	2
08/18/1998	OSCILLATORIA	40
	ARTHRODESMUS	10
	XANTHIDIUM	10
08/17/1999	SYNURA	62
	OSCILLATORIA	7
	ANABAENA	8
08/22/2000	DINOBRYON	44
	RHIZOLENIA	19
	CERATIUM	8

**Table 3.****PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM****Summary of current and historical Secchi Disk  
transparency results (in meters).**

<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
1992	3.0	5.5	4.1
1993	2.8	4.7	3.7
1994	3.5	3.8	3.6
1995	2.8	3.5	3.1
1996	2.7	3.3	3.0
1997	2.6	3.5	3.2
1998	2.6	3.3	2.8
1999	2.7	3.6	3.2
2000	2.2	3.2	2.9

**Table 4.****PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM**

**pH summary for current and historical sampling seasons.**  
**Values in units, listed by station and year.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
EPILIMNION	1992	6.59	7.06	6.79
	1993	6.50	6.90	6.61
	1994	6.58	6.90	6.72
	1995	6.67	6.75	6.71
	1996	6.24	6.65	6.41
	1997	6.26	6.99	6.66
	1998	6.46	6.80	6.63
	1999	6.42	6.63	6.52
	2000	6.51	6.86	6.61
HYPOLIMNION	1992	6.19	6.75	6.52
	1993	6.17	6.74	6.49
	1994	6.29	6.67	6.47
	1995	6.39	6.74	6.54
	1996	5.91	6.28	6.11
	1997	6.24	6.56	6.37
	1998	6.08	6.79	6.27
	1999	6.08	6.59	6.19
	2000	5.96	6.47	6.17



**Table 5.****PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM****Summary of current and historical Acid Neutralizing Capacity.  
Values expressed in mg/L as CaCO<sub>3</sub>.****Epilimnetic Values**

<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
1992	4.30	6.30	5.44
1993	3.80	5.20	4.32
1994	3.40	5.00	4.10
1995	3.65	4.90	4.34
1996	3.20	5.00	4.13
1997	3.20	5.30	4.50
1998	3.30	5.20	4.46
1999	4.10	5.50	4.54
2000	4.00	5.60	4.70

**Table 6.****PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM****Specific conductance results from current and historic  
sampling seasons. Results in uMhos/cm.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
EPILIMNION	1992	43.6	45.0	44.1
	1993	41.2	45.4	43.0
	1994	44.4	47.5	46.2
	1995	41.4	44.6	43.4
	1996	42.3	44.5	43.1
	1997	37.2	39.4	38.6
	1998	36.7	79.8	46.2
	1999	42.4	45.8	44.4
	2000	41.6	45.7	44.4
HYPOLIMNION	1992	43.7	47.9	44.7
	1993	41.3	44.6	43.1
	1994	43.2	51.8	46.6
	1995	40.2	49.8	44.9
	1996	42.0	46.6	44.5
	1997	37.3	42.4	39.9
	1998	37.0	40.8	38.7
	1999	43.1	48.8	46.7
	2000	41.6	48.6	46.3

**Table 8.**

**PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM**

**Summary historical and current sampling season Total  
Phosphorus data. Results in ug/L.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
EPILIMNION	1992	9	13	10
	1993	6	10	7
	1994	9	16	13
	1995	10	17	13
	1996	8	76	28
	1997	7	17	11
	1998	10	37	16
	1999	4	10	7
	2000	7	19	12
HYPOLIMNION	1992	7	16	10
	1993	9	31	13
	1994	12	21	17
	1995	13	19	16
	1996	6	24	14
	1997	15	30	18
	1998	11	35	19
	1999	13	220	60
	2000	8	39	19

**Table 9.**  
**PAWTUCKAWAY LAKE, SOUTH**  
**NOTTINGHAM**

**Current year dissolved oxygen and temperature data.**

<b>Depth</b> (meters)	<b>Temperature</b> (celsius)	<b>Dissolved Oxygen</b> (mg/L)	<b>Saturation</b> (%)
<b>August 22, 2000</b>			
0.1	21.8	7.8	89.1
1.0	21.6	7.5	85.5
2.0	21.5	7.6	85.6
3.0	21.5	7.4	83.7
4.0	21.3	6.9	78.0
5.0	20.6	5.6	62.4
6.0	16.8	0.3	2.9
7.0	14.2	0.4	3.9

**Table 10.**

**PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM**

**Historic Hypolimnetic dissolved oxygen and temperature data.**

<b>Date</b>	<b>Depth</b> (meters)	<b>Temperature</b> (celsius)	<b>Dissolved Oxygen</b> (mg/L)	<b>Saturation</b> (%)
June 14, 1992	6.0	13.0	2.5	23.7
June 8, 1993	6.0	15.5	8.1	80.0
August 9, 1994	6.5	15.0	0.3	3.0
August 21, 1995	5.0	19.3	0.6	6.0
August 21, 1995	6.0	15.2	0.2	2.0
August 20, 1996	6.0	16.8	0.8	8.0
August 19, 1997	6.0	17.5	0.3	3.0
August 18, 1998	6.0	17.2	0.4	4.0
August 17, 1999	6.0	19.0	0.2	2.3
August 22, 2000	7.0	14.2	0.4	3.9

**Table 11.****PAWTUCKAWAY LAKE, SOUTH  
NOTTINGHAM****Summary of current year and historic turbidity sampling.  
Results in NTU's.**

<b>Station</b>	<b>Year</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
EPILIMNION	1997	0.4	0.5	0.5
	1998	0.4	1.3	0.8
	1999	0.4	1.1	0.7
	2000	0.3	0.9	0.6
HYPOLIMNION	1997	0.9	2.1	1.4
	1998	0.9	3.0	1.9
	1999	1.2	6.3	3.3
	2000	0.7	3.2	1.6